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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,420	09/17/2004	Robert W. Zehner	H-386	5419
26245	7590	08/22/2007		
DAVID J COLE E INK CORPORATION 733 CONCORD AVE CAMBRIDGE, MA 02138-1002			EXAMINER HOLTON, STEVEN E	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 08/22/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/711,420	ZEHNER ET AL.	
	Examiner	Art Unit	
	Steven E. Holton	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17,34 and 36-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10,12-17,34 and 36-40 is/are allowed.
- 6) ☒ Claim(s) 11,41,42,51 and 52 is/are rejected.
- 7) ☒ Claim(s) 43-50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11 and 51 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a voltage cut-off method and a high scan rate method, does not reasonably provide enablement for the combination of the two methods. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. Claims 11 and 51 states the display having a scanning rate of at least 50 Hz. Claims 1 and 41 states that the entire display is being refreshed at the same time rather than scanning the display in a timing. The scanning rate of the display is discussed in relation to the high speed scanning method of display operation in paragraphs 75-79. This is separate from the voltage cut-off method of driving related to claims 1 and 41 discussed in paragraphs 62-74. There appears to be no mention of how a display would be scanned using a high scan rate within the disclosure while operating using the voltage cut-off method of operation. Thus, the disclosure, while enabling to both methods of operation for a display device, is not enabling for a combination of the two methods of operation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 41, 42 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Verhulst et al. (USPN: 5684504), hereinafter Verhulst.

Regarding claim 41, Verhulst discloses an electro-optic display device with a plurality of pixels (Fig. 4 shows the display with pixels as element 2). The display device of Verhulst is capable of displaying images with grayscale (col. 7, lines 13-26). Verhulst further describes applying a blanking pulse to pixels at the beginning of the data waveform (Fig. 6, waveforms labeled "Vreset"; col. 5, line 28-col. 6, line 9). Further Verhulst discloses an embodiment where all pixels are rewritten at the same time and the blanking pulse is applied to each pixel at the same time (col. 8, lines 3-10). This blanking pulse would occur for all pixels in the display and therefore, all pixels would have "at least one voltage transition occurring at substantially the same time in each waveform" in the form of the blanking pulse being applied to all pixels.

Regarding claim 42, Verhulst discloses the first voltage transition of the waveform occurs at substantially the same time in each waveform (col. 8, lines 3-10; Fig. 6, waveforms labeled "Vreset"). The blanking voltage pulse made to all pixels at the same time would result in all pixels having a voltage transition at substantially the same time for each waveform.

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Regarding claim 52, Verhulst discloses using voltages $-V$, 0 , and $+V$ to write images to the display device (Fig. 6, elements V_{set} and V_{reset}).

Allowable Subject Matter

Claims 1-10 and 12-17, 34, and 36-40 are allowed.

Claims 43-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to a method of controlling an electro-optic display device. Independent claims 1 and 34 identifies the uniquely distinct features "for all pixels undergoing non-zero transitions, the waveforms applied to the pixels have their last period of non-zero voltage terminating at substantially the same time". The closest prior art, Verhulst and Katase (USPN: 7019889) disclose timing pulses that start at the same time for an entire display, but not end at the same time, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Independent claim 36 identifies the features "for all pixels undergoing non-zero transitions, the waveforms applied to the pixels have their last period of non-zero voltage beginning at substantially the same time". The closest prior art, Verhulst and Katase (USPN: 7019889) disclose timing pulses that start at the same time for an entire

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display, but not end at the same time, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Dependent claim 43 identifies the feature "for all pixels undergoing on-zero transitions, the waveform is of the form $-x/\Delta IP/x$, where ΔIP denotes a difference in impulse potential between the final and initial states of the waveform, while $-x$ and x represent a DC balanced pair of pulses". The closest prior art, Verhulst and Katase (USPN: 7019889) disclose timing pulses that start at the same time for an entire display, but not end at the same time, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven E. Holton
Division 2629
July 23, 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
